REMARKS

This paper is in response to the Official Action mailed October 29, 2003. In this response, claims 9 and 16 have been amended and claim 24 has been canceled. Claims 2-4, 6, 8-14 and 16-23 are now presented for the Examiner's consideration in view of the following remarks:

Applicant acknowledges the Examiner's consideration of those references cited in IDS documents submitted on April 8, 2004 and on May 20, 2004.

The Present Application

The present application is directed to a technique for providing quality of service (QoS) guarantees in a wireless local area network (WLAN). More specifically, the application relates to providing a virtual stream in a basic service set in a WLAN. The technique is useful in providing an end-to-end QoS mechanism for a WLAN that integrates the physical and link layers of a WLAN as specified in IEEE P802.11/1999 with network and higher layers (*see* present specification at p. 7, lines 8-16).

The claims of the present application have been amended to claim that the wireless network containing the virtual stream is a WLAN.

Claim 9 has additionally been amended to require that the WLAN include a <u>distributed</u> contention scheme under control of a distributed coordination function contained in each of the sourcing and receiving stations. Such a system is convention under the IEEE P802.11/1999 specification (*see* present specification at p. 39, lines 11-19). Claim 9 further now requires that

the point coordinator station control a centralized contention scheme that functions in addition to the distributed contention scheme.

In the Final Official Action dated June 29, 2004, the Examiner has rejected all the claims under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,631,122 to Arunachalam et al.

The Arunachalam *Patent*

Arunachalam discloses a wireless QoS agent for an all-IP network. The QoS system described by Arunachalam functions in a wire line or wireless wide area network WAN having edge devices that connect to end systems:

> Referring to FIG. 2, there is illustrated an IP QoS architecture with a QoS Agent in accordance with the present invention. A QoS manager 205 is connected to its respective IP service. Four distinct access networked are illustrated in FIG. 2. These include Router-based IP network 201, IP-over-ATM/FR network 211, IP-over-SONET/WDM network 221, and IP-over-wireless/Cellular network 231. The present invention deals primarily with the last type of access network listed, but is not limited to such applications. Each network, contains a plurality of edge devices which provide connections to endsystems. The first three networks are wireline networks with edge device 203 connected to fixed endsystems 207 . IP-over-wireless/cellular network 231 consists of edge device 204a coupled to wireless transmitters 204b. Signals are transmitted to mobile endsystems 209.

Arunachalam, col. 4, lines 1-15. The networks described in Arunachalam are not local area networks, but are instead wide area networks with edge devices.

Discussion

<u>"Local Area Network" Limitation of Claims 9 and 16</u>

The limitations of cancelled claim 24, which was directed to a wireless network that is a wireless local area network, have been incorporated into both independent claims.

Applicant respectfully submits that independent claims 9 and 16 are patentable over Arunachalam because Arunachalam does not disclose a wireless local area network, and there is no teach or suggestion to apply the Arunachalam QoS system to a wireless local area network. Arunachalam instead utilizes wireless link management resources existing in current cellular communications networks, such as the Radio Resource Manager (col. 4, line 60 – col. 5, line 5), that are not available in a wireless local area network.

In rejecting claim 24, which was directed to a wireless local area network, the Examiner has identified element 204 in FIG. 2 as a WLAN. Element 204a of FIG. 2 is an edge device coupled to wireless transmitters 204b. Applicant submits that the IP-over-wireless/cellular network 231 containing those devices is not a WLAN, but is instead a wide area network.

Applicant therefore submits that the independent claims in the case, together with the dependent claims that incorporate the WLAN limitation, are patentable for at least that reason.

<u>"Contention Schemes" Limitation of Claim 9</u>

Claim 9 has been further amended to require that

> the wireless local area network include[s] a distributed
> contention scheme under control of a distributed coordination
> function contained in each said station;

and that

9

the PC station control[s] a centralized contention

scheme that functions in addition to the distributed contention

scheme.

The system of the present invention therefore works in conjunction with the existing

contention scheme of a WLAN such as an 802.11x network in providing a contention scheme

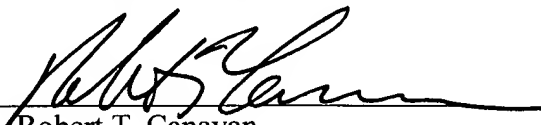that enhances QoS. Arunachalam discloses no such system.

Applicant therefore submits that claim 9, and claims 2-4, 6, 8 and 10-14, which depend

from claim 9, are patentable for that additional reason.

Conclusion

Applicant therefore asserts that none of the claims presented in the case are anticipated by

or obvious over the relevant art. Applicant submits that the claims in the case are in condition

for allowance, and earnestly requests that the Examiner issue a timely Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should

not hesitate to contact the undersigned at the number provided below.

Respectfully submitted,

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